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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,834	04/06/2006	Yasuhiko Matsuoka	2006_0518A	5080
513 7590 02/02/2009 WENDEROTH, LIND & PONACK, L.L.P. 2033 K STREET N. W. SUITE 800 WASHINGTON, DC 20006-1021			EXAMINER GILLESPIE, BENJAMIN	
			ART UNIT 1796	PAPER NUMBER
			MAIL DATE 02/02/2009	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/574,834

**Applicant(s)**

MATSUOKA ET AL.

**Examiner**

BENJAMIN J. GILLESPIE

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 10-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SI/ICE)  
Paper No(s)/Mail Date 4/6/2006
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 10-39 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 10 is rejected because the language “said double fluid reactive setting liquid” lacks antecedent basis. Additionally, it is not clear how the weight percentages of components (D) and (E) are related to component (C). Claims 12 and 13 are rejected because it is not clear what is intended by the language “(D) is microdispersed through phase separation”; phase separation and dispersions are opposite physical phenomena. Claim 18 is rejected because it is not clear what would satisfy the language “lumps”. The language “fine particles” render claims 29-35 indefinite because “fine” is a relative term. Similarly, claims 36-39 are rejected because “high precision” and “natural high molecular waster” are relative phrases.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 10, 12, 19, 24, 29, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazunori al ('JP 05-269783) in view of Johnson et al ('197). Kazunori et al teach a burn-off resin useful for cast molding, wherein said resin comprises (A) polyisocyanate, (B) polyol, and (C) wax, and it has a working life of five minutes or less. The resin may further comprise solvent, water, and additional additives such as carbon black, which is taken to satisfy the language "natural high molecular waste". (Abstract; paragraphs 11, 12, 50-52).

4. Regarding the specifically claimed amounts of solvent and water, the examiner would like to first point out that Kazunori et al teach the polyurethane may be foamed, and it is commonly understood within the art that the water content acts a result effective variable (REV) since it impacts the resulting foam properties, i.e. rigid or flexible foam. What's more it is commonly understood within the art that solvent content is also a REV since it helps control the ease of mixing and therefore the degree of homogeneity for mixed reactants and additives.

5. Therefore it would have been obvious to arrive at the claimed amounts of solvent and water since it has been held that where the general conditions of a claim are disclosed by the prior art, discovering an optimum value of a result effective variable merely involves routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). However, patentees still fail to teach specific amounts of wax or plasticizer, as well as the corresponding phase separation.

6. Johnson et al also teach burn-off resin comprising a mixture of thermoplastic polymer and a combination of wax and plasticizer (Abstract). In particular, patentees explain that most wax and plasticizers show "poor compatibility" which is taken to satisfy "phase separate" and more important the amount of polymer, wax, and plasticizer impact the holding property of the resulting resin, i.e. the amounts are also result effective variables. Therefore it would have also been obvious to arrive at the claimed amounts of wax and plasticizer since Johnson et al establish they are each a REV, and it has been held that where the general conditions of a claim are disclosed by the prior art, discovering an optimum value of a result effective variable merely involves routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).
7. Claims 10-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazunori et al ('JP 05-269783) in view of Johnson et al ('197) and Olstowski ('185). As previously discussed Kazunori et al in view of Jonson et al render obvious a burn-off resin comprising the reaction product of (A) polyisocyanate and (B) polyol, wherein said resin is molded and preferably has a working life less than five minutes, however, the prior art fails to teach the limitations of claims 11 and 14-18.
8. Olstowski also teach molded resin that is the reaction product of (A) polyisocyanate and (B) polyol, wherein (B) is a polyether having ethylene, propylene or butylene groups, 2 to 8 hydroxyl groups, and the equivalent ratio of (A) to (B) is between 0.8:1 to 1.05:1 (Col 1 lines 55-64; col 2 lines 1-7). Patentees go on to teach that the reaction between (A) and (B) may be as fast as 30 seconds (Col 3 lines 35-37). Therefore, it would have been obvious to utilize the specific amounts and types of (A) and (B) disclosed by Olstowski in Kazunori et al since they

are disclosed as being useful in producing molded objects, and the provide rapid cure speeds, which is required by Kazunori et al.

***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN J. GILLESPIE whose telephone number is (571)272-2472. The examiner can normally be reached on 8am-5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rabon Sergeant/  
Primary Examiner, Art Unit 1796

B. Gillespie